

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
18 March 2004 (18.03.2004)

PCT

(10) International Publication Number
WO 2004/022760 A1

(51) International Patent Classification⁷: **C12N 15/86**

[AT/AT]; Hauptstrasse 6, A-2486 Pottendorf (AT). KIT-TEL, Christian [AT/AT]; Obere Donaustrasse 63/2/7, A-1020 Vienna (AT). KATINGER, Hermann [AT/AT]; Heiligenstädterstrasse 127A/7/8, A-1190 Vienna (AT).

(21) International Application Number:
PCT/EP2003/009375

(74) Agent: **BÜCHEL, KAMINSKI & PARTNER**; Austrasse 79, FL-9490 Vaduz (LI).

(22) International Filing Date: 23 August 2003 (23.08.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

Published:

(30) Priority Data:
60/407,695 4 September 2002 (04.09.2002) US

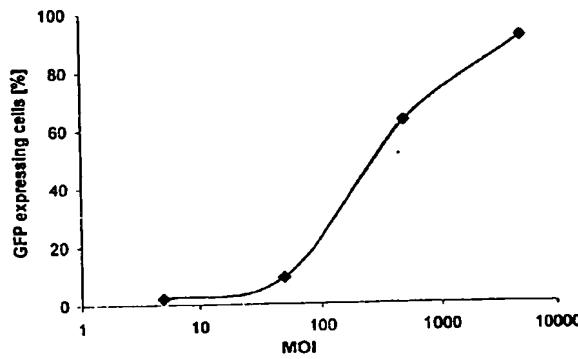
— with international search report

(71) Applicant (*for all designated States except US*):
POLYMUN SCIENTIFIC IMMUNBIOLOGISCHE FORSCHUNG GMBH [AT/AT]; Nussdorfer Lände 11, A-1190 Vienna (AT).

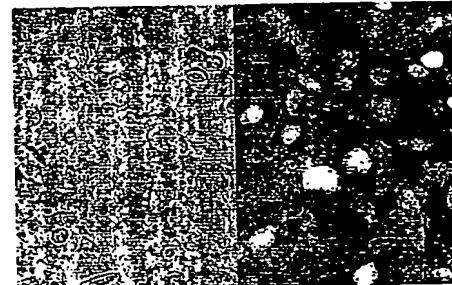
[Continued on next page]

(72) Inventors; and
(75) Inventors/Applicants (*for US only*): **GRABHERR, Reingard** [AT/AT]; Ludwig-Kaiser-Strasse 11, A-3021 Pressbaum (AT). **EGOROV, Andrej** [RU/AT]; Leipziger Strasse 58/8, A-1200 Vienna (AU). **POOMPUTSA, Kanokwan** [TH/TH]; 825/604 Pracha-uthit 58/1, Moo 1, Toongkhu, Bangkok, 10140 (TH). **ERNST, Wolfgang**

(54) Title: GENERATION OF RECOMBINANT INFLUENZA VIRUS USING BACULOVIRUS DELIVERY VECTOR



A



B

WO 2004/022760 A1

(57) **Abstract:** The invention relates to a method wherein a baculovirus delivery system is used as an alternative for the rescue of recombinant influenza virus. A recombinant baculovirus vector containing mammalian cell-active promoters and transcription terminators was used for delivery of the influenza NS gene segment to Vero cells. In addition to the influenza NS gene segment, the recombinant baculovirus vector contained a reporter gene expression cassette (GFP), allowing to monitor the Vero cell transduction efficiency. More than 90 percent of Vero cells were expressing GFP 24 to 48 hours after transduction. After infecting baculovirus-transduced cells with influenza helper virus, recombinant influenza progeny carrying the synthetic, baculovirus-derived NS gene was isolated. The method further relates to the chimeric baculovirus and to its chimeric genome and further to a method of manufacture of recombinant influenza vaccines using the baculovirus transduction method.